B. Everett Jordan Project
Drought Update— 1 November 2001

1. **Tabulated B. Everett Jordan Project Watershed Rainfall and Inflows**. As shown in Table One below, only 12 out of the past 41 months had above average rainfall and 10 of the past 41 months had average monthly inflows greater than average since June 1998. Over the past 41 months, inflows overall trended about 84 percent of average although rainfall has averaged 93 percent of normal. From a drought management view, these averages are biased by the rains received during the tropical season in 1999 when Hurricane Floyd dumped tremendous amounts of water along parts of eastern and south central North Carolina. The inflows during September 1999 were 808 percent of normal. Additionally, if this month were removed from the table below, the average inflow since June 1998 into Jordan Dam would be reduced from 84 to 68 percent of normal. **The most important statistic is that inflows to Jordan Dam over the past two months has averaged on 26 percent of normal and only 14 percent of normal for all of October.** Note that the guide curve or target level at Jordan Lake is at elevation 216 feet, msl year round. Also note that cfs is an abbreviation for cubic feet per second.

Table One
B. Everett Jordan--Inflows, Rainfall, and Lake Levels
From June 1998 to Present

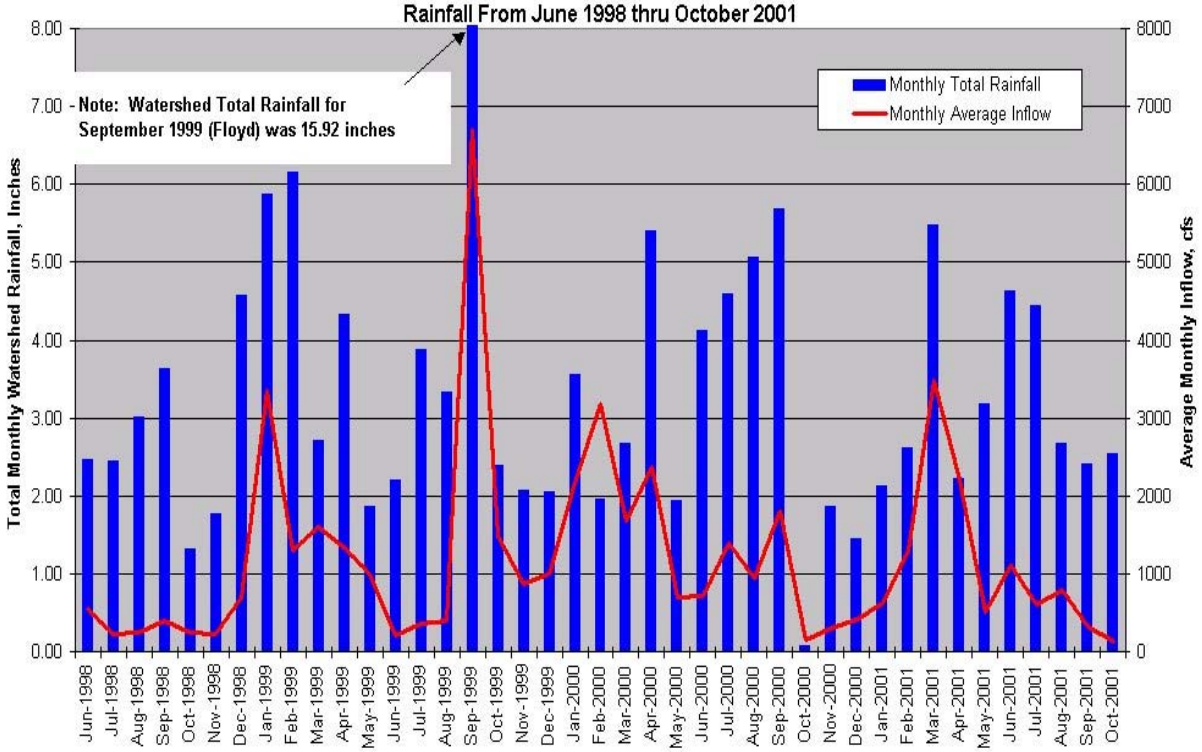
	Inflow to Jordan Dam			Watershed Rainfall			
	Long Term Monthly Average cfs	Monthly Actual Average cfs	Percent of Normal	Long Term Monthly Average inch	Actual Monthly Total inch	Percent of Normal	End of of Month Level Ft-msl
Jun 1998	1056	544	52	3.96	2.47	62	216.14
Jul 1998	986	233	24	4.91	2.44	50	214.90
Aug 1998	878	249	28	4.56	3.02	66	213.75
Sep 1998	830	404	49	3.52	3.63	103	213.21
Oct 1998	904	239	26	3.15	1.31	42	211.65
Nov 1998	1075	231	21	2.88	1.77	61	210.58
Dec 1998	1562	703	45	3.38	4.58	136	212.92
Jan 1999	2608	3342	128	3.67	5.88	160	219.95
Feb 1999	3058	1294	42	3.52	6.15	175	216.23
Mar 1999	3023	1597	53	3.95	2.72	69	216.65
Apr 1999	2264	1335	59	3.42	4.32	126	217.57
May 1999	1331	996	75	3.80	1.86	49	216.02
Jun 1999	1056	214	20	3.96	2.21	56	214.76
Jul 1999	986	366	37	4.91	3.87	79	214.04
Aug 1999	878	387	44	4.56	3.33	73	213.46
Sep 1999	830	6709	808	3.52	15.92	452	223.32
Oct 1999	904	1486	164	3.15	2.39	76	216.50
Nov 1999	1075	867	81	2.88	2.08	72	217.40
Dec 1999	1562	1004	64	3.38	2.06	61	216.68
Jan 2000	2608	2172	83	3.67	3.56	97	219.34
Feb 2000	3058	3177	104	3.52	1.95	55	221.01
Mar 2000	3023	1683	56	3.95	2.68	68	216.90
Apr 2000	2264	2372	105	3.42	5.41	158	217.45

Table One (Continued)
B. Everett Jordan--Inflows, Rainfall, and Lake Levels
From June 1998 to Present

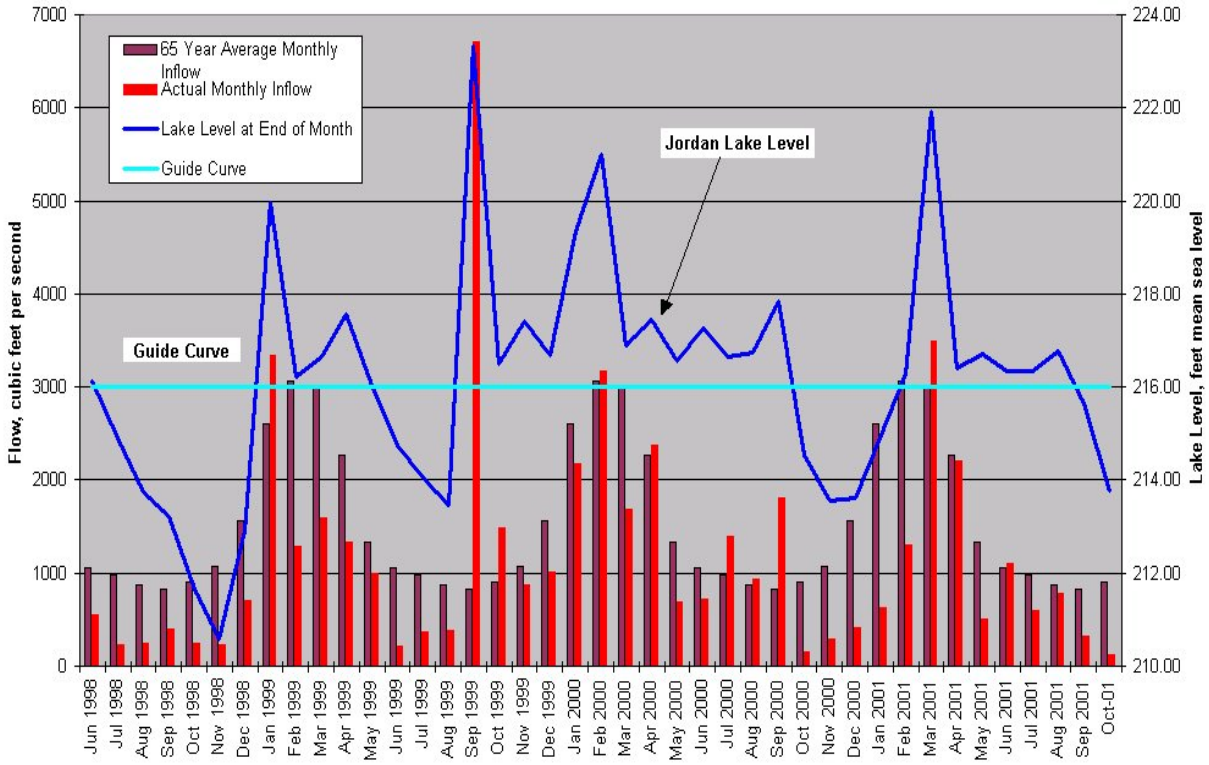
	Inflow to Jordan Dam			Watershed Rainfall			
	Long Term Monthly Average cfs	Monthly Actual Average cfs	Percent of Normal	Long Term Monthly Average inch	Actual Monthly Total inch	Percent of Normal	End of of Month Level Ft-msl
May 2000	1331	695	52	3.80	1.94	51	216.56
Jun 2000	1056	718	68	3.96	4.13	104	217.27
Jul 2000	986	1392	141	4.91	4.60	94	216.65
Aug 2000	878	932	106	4.56	5.07	111	216.73
Sep 2000	830	1805	217	3.52	5.68	161	217.84
Oct 2000	904	157	17	3.15	0.07	2	214.53
Nov 2000	1075	296	28	2.88	1.86	65	213.54
Dec 2000	1562	413	26	3.38	1.45	43	213.61
Jan 2001	2608	626	24	3.67	2.13	58	214.90
Feb 2001	3058	1298	42	3.52	2.61	74	216.29
Mar 2001	3023	3485	115	3.95	5.48	139	221.91
Apr 2001	2264	2201	97	3.42	2.23	65	216.41
May 2001	1331	504	38	3.80	3.18	84	216.71
Jun 2001	1056	1107	105	3.96	4.63	117	216.35
Jul 2001	986	593	60	4.91	4.44	90	216.34
Aug 2001	878	784	89	4.56	2.67	59	216.76
Sep 2001	830	316	38	3.52	2.41	68	215.63
Oct 2001	904	127	14	3.15	2.54	81	213.77
Average	1546	1196	84	3.76	3.48	93	

2. **Plotted B. Everett Jordan Project Watershed Rainfall, Project Inflows and End of Month Lake Level**. The plots on the following page illustrate the data in Table One and the relationship between rainfall, resultant net inflow to Jordan Dam and the end of month Jordan Lake levels. Although the Jordan project watershed and lake level is in much better shape than some adjacent areas, the most recent ground water or base flow levels appear to be depressed. This is evident in the above table and also in the plots below. For example, in June of this year, rainfall and inflows were above normal. Since then, rainfall has been below normal each month and the monthly inflows have plummeted. This is very obvious in the tabulated data.

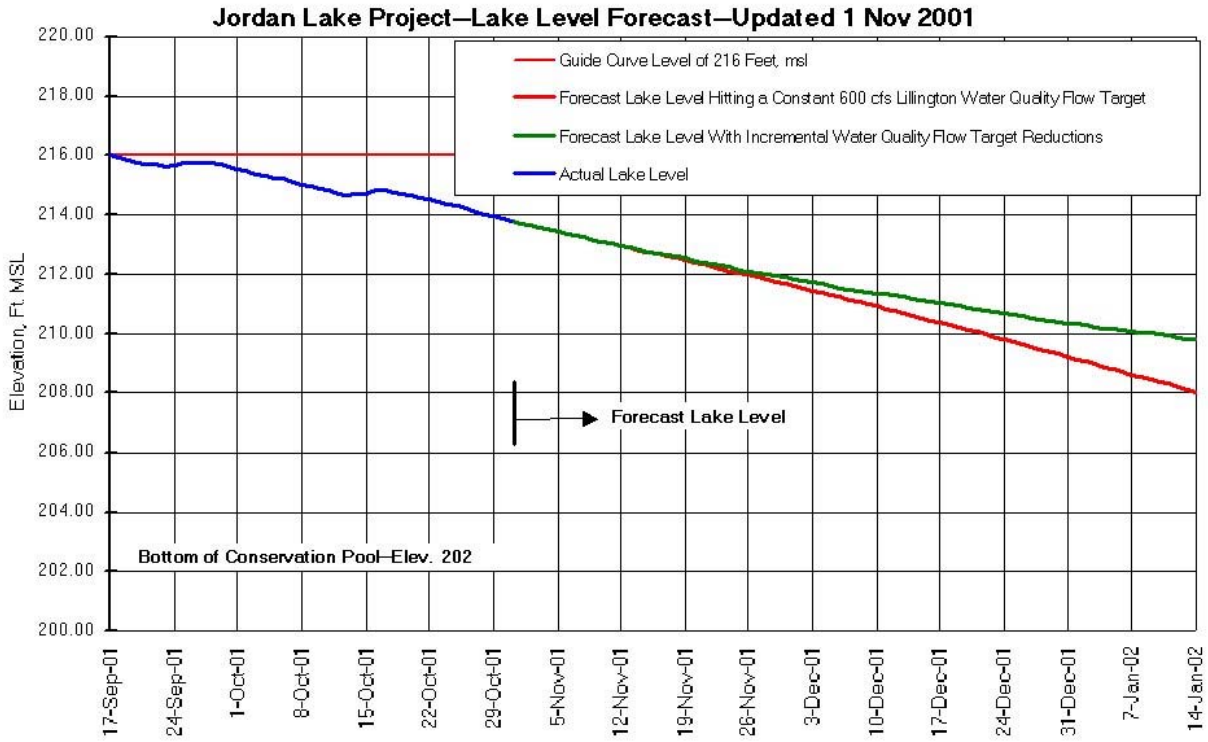
Plot of Average Monthly Inflows to B. Everett Jordan Dam in Response to the Total Monthly Watershed Rainfall From June 1998 thru October 2001



Average Monthly Inflows and End of Month B. Everett Jordan Lake Levels From June 1998 thru October 2001



3. **Status of Jordan Lake Level, Water Quality Storage, Water Supply Storage**: Conditions continue to get slowly worse for the B. Everett Jordan project. As of this report, Jordan Lake is at 213.8 feet, msl or 2.2 feet below guide curve. Recreation will decrease as the lake level decreases. However, recreation in the late fall and winter months decreases naturally. A primary concern with Jordan Lake is the status of the water quality storage portion of the conservation pool behind Jordan Dam. Water from the water quality pool is used to ensure that the Cape Fear River at Lillington is above a flow rate of 600 cfs each day of the year. If the water quality pool storage is depleted, the 600 cfs flow rate at Lillington would not be guaranteed. To help decrease the possibility of the water quality pool being depleted, the water quality flow target has been decreased in gradual steps as the drought worsened and as the water quality storage behind Jordan Dam decreased. This helped conserve the remaining storage and extended the longevity of this storage. During previous droughts, the NC Division of Water Quality closely monitored the water quality of the Cape Fear River during each cutback in target flows and partnered with the Wilmington District in this effort. The red line in the plot below shows the Jordan Lake draw down if water quality targets are not cutback. Likewise, on the following plot of water quality storage, the red line shows the water quality storage remaining if the water quality flow target is maintained at 600 cfs. In contrast, the green line on both plots shows the beneficial effects of the gradual tapering back of water quality flows. In the gradual taper back analysis, instead of hitting a flow target of 600 cfs at Lillington, the releases from Jordan Dam were limited to 500 cfs at 60 percent of water quality storage remaining, 450 cfs at 50 percent, 400 cfs at 40 percent, 350 cfs at 30 percent remaining and 300 cfs at 20 percent remaining. In this way, the flow produced at Lillington is the sum of the release of Jordan Dam and the local flows between Jordan Dam and Lillington. This local flow area includes the entire flows produced by the Deep River. The Deep River joins with the Haw River to form the Cape Fear River. With either plan, 60 percent of the water quality storage is anticipated to happen about mid-November. When this happens, notification with concerned partners will take place. The water supply storage portion of Jordan Lake is not a concern at the moment as the water supply pool is not fully allocated by the State of North Carolina.


Jordan Lake Project—Lake Level Forecast—Updated 1 Nov 2001
Guide Curve Level of 216 Feet, msl
Forecast Lake Level Hitting a Constant 600 cfs Lillington Water Quality Flow Target
Forecast Lake Level With Incremental Water Quality Flow Target Reductions
Actual Lake Level
Forecast Lake Level
Bottom of Conservation Pool—Elev. 202
Elevation, Ft. MSL
220.00
218.00
216.00
214.00
212.00
210.00
208.00
206.00
204.00
202.00
200.00
17-Sep-01
24-Sep-01
1-Oct-01
8-Oct-01
15-Oct-01
22-Oct-01
29-Oct-01
5-Nov-01
12-Nov-01
19-Nov-01
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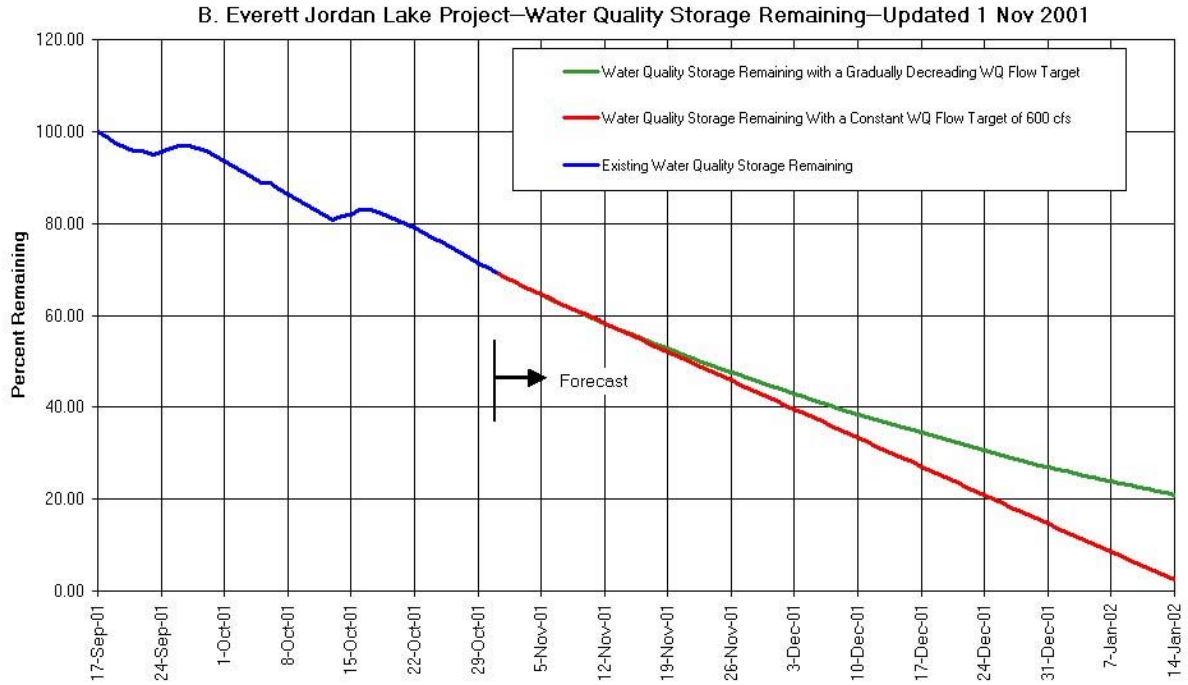
24-Dec-01
31-Dec-01
7-Jan-02
14-Jan-02


B. Everett Jordan Lake Project—Water Quality Storage Remaining—Updated 1 Nov 2001
Water Quality Storage Remaining with a Gradually Decreading WQ Flow Target
Water Quality Storage Remaining With a Constant WQ Flow Target of 600 cfs
Existing Water Quality Storage Remaining
Forecast
Percent Remaining
120.00
100.00
80.00
60.00
40.00
20.00
0.00
17-Sep-01
24-Sep-01
1-Oct-01
8-Oct-01
15-Oct-01
22-Oct-01
29-Oct-01
5-Nov-01
12-Nov-01
19-Nov-01
26-Nov-01
3-Dec-01
10-Dec-01
17-Dec-01
24-Dec-01
31-Dec-01
7-Jan-02
14-Jan-02

4. <u>Impacts to Public Recreation Facilities at Jordan Lake</u>. Public recreation facilities at B. Everett Jordan Project are shown below and will be discussed more in detail as the drought continues or worsens.

Table Two--Public Boat Ramps B. Everett Jordan Project

Location	Number of Lanes	Bottom Ramp Elevation (feet, m.s.l.)
Ebenezer	2	202
	4	206
Vista Point	2	202
	2	206
Parkers Creek	2	205
Farrington	2	202
	2	206
	2	208
Crosswinds Ramp	4	212
	2	202
Crosswinds Marina	2	202
	2	208
Poes Ridge	4	210
Poplar Point	4	210
Seaforth	3	205
	3	210
Crosswinds Campground	2	207
Robeson Creek	1	202
	1	208
New Hope Overlook	2	202
	4	208